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7

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<212> PRT
<213> homo sapiens

<400> 4

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            20                  25                  30
Arg Leu Phe Pro Glu Thr Ala Pro Gly Ala Pro Gly Ser Ile Pro Ala
            35                  40                  45
Pro Pro Ala Pro Gly Asp Glu Ala Ala Gly Ser Arg Val Glu Arg Leu
        50                  55                  60
Gly Gln Ala Phe Arg Arg Arg Val Arg Leu Leu Arg Glu Leu Ser Glu
65                  70                  75                  80
Arg Leu Glu Leu Val Phe Leu Val Asp Asp Ser Ser Ser Val Gly Glu
                85                  90                  95
Val Asn Phe Arg Ser Glu Leu Met Phe Val Arg Lys Leu Leu Ser Asp
                100                 105                 110
Phe Pro Val Val Pro Thr Ala Thr Arg Val Ala Ile Val Thr Phe Ser
            115                 120                 125
Ser Lys Asn Tyr Val Val Pro Arg Val Asp Tyr Ile Ser Thr Arg Arg
        130                 135                 140
Ala Arg Gln His Lys Cys Ala Leu Leu Leu Gln Glu Ile Pro Ala Ile
145                 150                 155                 160
Ser Tyr Arg Gly Gly Gly Thr Tyr Thr Lys Gly Ala Phe Gln Gln Ala
                165                 170                 175
```

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Ala Gln Ile Leu Leu His Ala Arg Glu Asn Ser Thr Lys Val Val Phe
             180                     185                 190
Leu Ile Thr Asp Gly Tyr Ser Asn Gly Gly Asp Pro Arg Pro Ile Ala
             195                 200             205
Ala Ser Leu Arg Asp Ser Gly Val Glu Ile Phe Thr Phe Gly Ile Trp
210                      215                 220
Gln Gly Asn Ile Arg Glu Leu Asn Asp Met Ala Ser Thr Pro Lys Glu
225                  230                 235                     240
Glu His Cys Tyr Leu Leu His Ser Phe Glu Glu Phe Glu Ala Leu Ala
             245                 250                 255
Arg Arg Ala Leu His Glu Asp Leu Pro Ser Gly Ser Phe Ile Gln Asp
             260                 265                 270
Asp Met Val His Cys Ser Tyr Leu Cys Asp Glu Gly Lys Asp Cys Cys
         275                 280                 285
Asp Arg Met Gly Ser Cys Lys Cys Gly Thr His Thr Gly His Phe Glu
    290                 295                 300
Cys Ile Cys Glu Lys Gly Tyr Tyr Gly Lys Gly Leu Gln Tyr Glu Cys
305                 310                 315                     320
Thr Ala Cys Pro Ser Gly Thr Tyr Lys Pro Glu Gly Ser Pro Gly Gly
             325                 330                 335
Ile Ser Ser Cys Ile Pro Cys Pro Asp Glu Asn His Thr Ser Pro Pro
             340                 345                 350
Gly Ser Thr Ser Pro Glu Asp Cys Val Cys Arg Glu Gly Tyr Arg Ala
         355                 360                 365
Ser Gly Gln Thr Cys Glu Leu Val His Cys Pro Ala Leu Lys Pro Pro
    370                 375                 380
Glu Asn Gly Tyr Phe Ile Gln Asn Thr Cys Asn Asn His Phe Asn Ala
385                 390                 395                     400
Ala Cys Gly Val Arg Cys His Pro Gly Phe Asp Leu Val Gly Ser Ser
             405                 410                 415
Ile Ile Leu Cys Leu Pro Asn Gly Leu Trp Ser Gly Ser Glu Ser Tyr
             420                 425                 430
Cys Arg Val Arg Thr Cys Pro His Leu Arg Gln Pro Lys His Gly His
         435                 440                 445
Ile Ser Cys Ser Thr Arg Glu Met Leu Tyr Lys Thr Thr Cys Leu Val
    450                 455                 460
Ala Cys Asp Glu Gly Tyr Arg Leu Glu Gly Ser Asp Lys Leu Thr Cys
465                 470                 475                     480
Gln Gly Asn Ser Gln Trp Asp Gly Pro Glu Pro Arg Cys Val Glu Arg
             485                 490                 495
His Cys Ser Thr Phe Gln Met Pro Lys Asp Val Ile Ile Ser Pro His
         500                 505                 510
Asn Cys Gly Lys Gln Pro Ala Lys Phe Gly Thr Ile Cys Tyr Val Ser
    515                 520                 525
Cys Arg Gln Gly Phe Ile Leu Ser Gly Val Lys Glu Met Leu Arg Cys
    530                 535                 540
Thr Thr Ser Gly Lys Trp Asn Val Gly Val Gln Ala Ala Val Cys Lys
545                 550                 555                     560
Asp Val Glu Ala Pro Gln Ile Asn Cys Pro Lys Asp Ile Glu Ala Lys
             565                 570                 575
Thr Leu Glu Gln Gln Asp Ser Ala Asn Val Thr Trp Gln Ile Pro Thr
             580                 585                 590
Ala Lys Asp Asn Ser Gly Glu Lys Val Ser Val His Val His Pro Ala
         595                 600                 605
Phe Thr Pro Pro Tyr Leu Phe Pro Ile Gly Asp Val Ala Ile Val Tyr
610                 615                 620
```

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Thr Ala Thr Asp Leu Ser Gly Asn Gln Ala Ser Cys Ile Phe His Ile
625             630             635                         640
Lys Val Ile Asp Ala Glu Pro Pro Val Ile Asp Trp Cys Arg Ser Pro
            645             650                     655
Pro Pro Val Gln Val Ser Glu Lys Val His Ala Ala Ser Trp Asp Glu
            660             665                 670
Pro Gln Phe Ser Asp Asn Ser Gly Ala Glu Leu Val Ile Thr Arg Ser
        675             680                 685
His Thr Gln Gly Asp Leu Phe Pro Gln Gly Glu Thr Ile Val Gln Tyr
    690             695                 700
Thr Ala Thr Asp Pro Ser Gly Asn Asn Arg Thr Cys Asp Ile His Ile
705             710             715                         720
Val Ile Lys Gly Ser Pro Cys Glu Ile Pro Phe Thr Pro Val Asn Gly
            725             730                     735
Asp Phe Ile Cys Thr Pro Asp Asn Thr Gly Val Asn Cys Thr Leu Thr
            740             745                 750
Cys Leu Glu Gly Tyr Asp Phe Thr Glu Gly Ser Thr Asp Lys Tyr Tyr
            755             760                 765
Cys Ala Tyr Glu Asp Gly Val Trp Lys Pro Thr Tyr Thr Thr Glu Trp
    770             775             780
Pro Asp Cys Ala Lys Lys Arg Phe Ala Asn His Gly Phe Lys Ser Phe
785             790             795                         800
Glu Met Phe Tyr Lys Ala Ala Arg Cys Asp Asp Thr Asp Leu Met Lys
            805             810                     815
Lys Phe Ser Glu Ala Phe Glu Thr Thr Leu Gly Lys Met Val Pro Ser
            820             825                 830
Phe Cys Ser Asp Ala Glu Asp Ile Asp Cys Arg Leu Glu Glu Asn Leu
            835             840                 845
Thr Lys Lys Tyr Cys Leu Glu Tyr Asn Tyr Asp Tyr Glu Asn Gly Phe
    850             855                 860
Ala Ile Gly Pro Gly Gly Trp Gly Ala Ala Asn Arg Leu Asp Tyr Ser
865             870             875                         880
Tyr Asp Asp Phe Leu Asp Thr Val Gln Glu Thr Ala Thr Ser Ile Gly
            885             890                 895
Asn Ala Lys Ser Ser Arg Ile Lys Arg Ser Ala Pro Leu Ser Asp Tyr
            900             905                 910
Lys Ile Lys Leu Ile Phe Asn Ile Thr Ala Ser Val Pro Leu Pro Asp
            915             920                 925
Glu Arg Asn Asp Thr Leu Glu Trp Glu Asn Gln Gln Arg Leu Leu Gln
            930             935                 940
Thr Leu Glu Thr Ile Thr Asn Lys Leu Lys Arg Thr Leu Asn Lys Asp
945             950             955                         960
Pro Met Tyr Ser Phe Gln Leu Ala Ser Glu Ile Leu Ile Ala Asp Ser
            965             970                 975
Asn Ser Leu Glu Thr Lys Lys Ala Ser Pro Phe Cys Arg Pro Gly Ser
            980             985                 990
Val Leu Arg Gly Arg Met Cys Val Asn Cys Pro Leu Gly Thr Tyr Tyr
            995             1000                1005
Asn Leu Glu His Phe Thr Cys Glu Ser Cys Arg Ile Gly Ser Tyr Gln
    1010            1015                1020
Asp Glu Glu Gly Gln Leu Glu Cys Lys Leu Cys Pro Ser Gly Met Tyr
1025            1030                1035                    1040
Thr Glu Tyr Ile His Ser Arg Asn Ile Ser Asp Cys Lys Ala Gln Cys
            1045                1050                1055
Lys Gln Gly Thr Tyr Ser Tyr Ser Gly Leu Glu Thr Cys Glu Ser Cys
    1060                1065                1070
```

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Pro Leu Gly Thr Tyr Gln Pro Lys Phe Gly Ser Arg Ser Cys Leu Ser
    1075                1080                1085
Cys Pro Glu Asn Thr Ser Thr Val Lys Arg Gly Ala Val Asn Ile Ser
    1090                1095                1100
Ala Cys Gly Val Pro Cys Pro Glu Gly Lys Phe Ser Arg Ser Gly Leu
1105                1110                1115                1120
Met Pro Cys His Pro Cys Pro Arg Asp Tyr Tyr Gln Pro Asn Ala Gly
            1125                1130                1135
Lys Ala Phe Cys Leu Ala Cys Pro Phe Tyr Gly Thr Thr Pro Phe Ala
            1140                1145                1150
Gly Ser Arg Ser Ile Thr Glu Cys Ser Ser Phe Ser Ser Thr Phe Ser
            1155                1160                1165
Ala Ala Glu Glu Ser Val Val Pro Pro Ala Ser Leu Gly His Ile Lys
    1170                1175                1180
Lys Arg His Glu Ile Ser Ser Gln Val Phe His Glu Cys Phe Phe Asn
1185                1190                1195                1200
Pro Cys His Asn Ser Gly Thr Cys Gln Gln Leu Gly Arg Gly Tyr Val
            1205                1210                1215
Cys Leu Cys Pro Leu Gly Tyr Thr Gly Leu Lys Cys Glu Thr Asp Ile
            1220                1225                1230
Asp Glu Cys Ser Pro Leu Pro Cys Leu Asn Asn Gly Val Cys Lys Asp
            1235                1240                1245
Leu Val Gly Glu Phe Ile Cys Glu Cys Pro Ser Gly Tyr Thr Gly Gln
    1250                1255                1260
Arg Cys Glu Glu Asn Ile Asn Glu Cys Ser Ser Ser Pro Cys Leu Asn
1265                1270                1275                1280
Lys Gly Ile Cys Val Asp Gly Val Ala Gly Tyr Arg Cys Thr Cys Val
            1285                1290                1295
Lys Gly Phe Val Gly Leu His Cys Glu Thr Glu Val Asn Glu Cys Gln
            1300                1305                1310
Ser Asn Pro Cys Leu Asn Asn Ala Val Cys Glu Asp Gln Val Gly Gly
            1315                1320                1325
Phe Leu Cys Lys Cys Pro Pro Gly Phe Leu Gly Thr Arg Cys Gly Lys
    1330                1335                1340
Asn Val Asp Glu Cys Leu Ser Gln Pro Cys Lys Asn Gly Ala Thr Cys
1345                1350                1355                1360
Lys Asp Gly Ala Asn Ser Phe Arg Cys Leu Cys Ala Ala Gly Phe Thr
            1365                1370                1375
Gly Ser His Cys Glu Leu Asn Ile Asn Glu Cys Gln Ser Asn Pro Cys
    1380                1385                1390
Arg Asn Gln Ala Thr Cys Val Asp Glu Leu Asn Ser Tyr Ser Cys Lys
    1395                1400                1405
Cys Gln Pro Gly Phe Ser Gly Gln Arg Cys Glu Thr Glu Gln Ser Thr
    1410                1415                1420
Gly Phe Asn Leu Asp Phe Glu Val Ser Gly Ile Tyr Gly Tyr Val Met
1425                1430                1435                1440
Leu Asp Gly Met Leu Pro Ser Leu His Ala Leu Thr Cys Thr Phe Trp
            1445                1450                1455
Met Lys Ser Ser Asp Asp Met Asn Tyr Gly Thr Pro Ile Ser Tyr Ala
            1460                1465                1470
Val Asp Asn Gly Ser Asp Asn Thr Leu Leu Leu Thr Asp Tyr Asn Gly
    1475                1480                1485
Trp Val Leu Tyr Val Asn Gly Arg Glu Lys Ile Thr Asn Cys Pro Ser
    1490                1495                1500
Val Asn Asp Gly Arg Trp His His Ile Ala Ile Thr Trp Thr Ser Ala
1505                1510                1515                1520
```

11

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Asn Gly Ile Trp Lys Val Tyr Ile Asp Gly Lys Leu Ser Asp Gly Gly
            1525                1530                1535
Ala Gly Leu Ser Val Gly Leu Pro Ile Pro Gly Gly Gly Ala Leu Val
            1540                1545                1550
Leu Gly Gln Glu Gln Asp Lys Lys Gly Glu Gly Phe Ser Pro Ala Glu
          1555                1560                1565
Ser Phe Val Gly Ser Ile Ser Gln Leu Asn Leu Trp Asp Tyr Val Leu
        1570              1575              1580
Ser Pro Gln Gln Val Lys Ser Leu Ala Thr Ser Cys Pro Glu Glu Leu
1585              1590              1595                1600
Ser Lys Gly Asn Val Leu Ala Trp Pro Asp Phe Leu Ser Gly Ile Val
            1605                1610                1615
Gly Lys Val Lys Ile Asp Ser Lys Ser Ile Phe Cys Ser Asp Cys Pro
            1620                1625                1630
Arg Leu Gly Gly Ser Val Pro His Leu Arg Thr Ala Ser Glu Asp Leu
          1635                1640                1645
Lys Pro Gly Ser Lys Val Asn Leu Phe Cys Asp Pro Gly Phe Gln Leu
          1650                1655                1660
Val Gly Asn Pro Val Gln Tyr Cys Leu Asn Gln Gly Gln Trp Thr Gln
1665                1670                1675                1680
Pro Leu Pro His Cys Glu Arg Ile Ser Cys Gly Val Pro Pro Pro Leu
            1685                1690                1695
Glu Asn Gly Phe His Ser Ala Asp Asp Phe Tyr Ala Gly Ser Thr Val
            1700                1705                1710
Thr Tyr Gln Cys Asn Asn Gly Tyr Tyr Leu Leu Gly Asp Ser Arg Met
            1715                1720                1725
Phe Cys Thr Asp Asn Gly Ser Trp Asn Gly Val Ser Pro Ser Cys Leu
            1730                1735                1740
Asp Val Asp Glu Cys Ala Val Gly Ser Asp Cys Ser Glu His Ala Ser
1745                1750                1755                1760
Cys Leu Asn Val Asp Gly Ser Tyr Ile Cys Ser Cys Val Pro Pro Tyr
            1765                1770                1775
Thr Gly Asp Gly Lys Asn Cys Ala Glu Pro Ile Lys Cys Lys Ala Pro
            1780                1785                1790
Gly Asn Pro Glu Asn Gly His Ser Ser Gly Glu Ile Tyr Thr Val Gly
          1795                1800                1805
Ala Ala Val Thr Phe Ser Cys Gln Glu Gly Tyr Gln Leu Met Gly Val
          1810                1815                1820
Thr Lys Ile Thr Cys Leu Glu Ser Gly Glu Trp Asn His Leu Ile Pro
1825                1830                1835                1840
Tyr Cys Lys Ala Val Ser Cys Gly Lys Pro Ala Ile Pro Glu Asn Gly
            1845                1850                1855
Cys Ile Glu Glu Leu Ala Phe Thr Phe Gly Ser Lys Val Thr Tyr Arg
            1860                1865                1870
Cys Asn Lys Gly Tyr Thr Leu Ala Gly Asp Lys Glu Ser Ser Cys Leu
          1875                1880                1885
Ala Asn Ser Ser Trp Ser His Ser Pro Pro Val Cys Glu Pro Val Lys
          1890                1895                1900
Cys Ser Ser Pro Glu Asn Ile Asn Asn Gly Lys Tyr Ile Leu Ser Gly
1905                1910                1915                1920
Leu Thr Tyr Leu Ser Thr Ala Ser Tyr Ser Cys Asp Thr Gly Tyr Ser
            1925                1930                1935
Leu Gln Gly Pro Ser Ile Ile Glu Cys Thr Ala Ser Gly Ile Trp Asp
          1940                1945                1950
Arg Ala Pro Pro Ala Cys His Leu Val Phe Cys Gly Glu Pro Pro Ala
          1955                1960                1965
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Ile Lys Asp Ala Val Ile Thr Gly Asn Asn Phe Thr Phe Arg Asn Thr
    1970                              1980
Val Thr Tyr Thr Cys Lys Glu Gly Tyr Thr Leu Ala Gly Leu Asp Thr
1975          1990                1995                2000
1985
Ile Glu Cys Leu Ala Asp Gly Lys Trp Ser Arg Ser Asp Gln Gln Cys
             2005        2010                      2015
Leu Ala Val Ser Cys Asp Glu Pro Pro Ile Val Asp His Ala Ser Pro
    2020              2025                     2030
Glu Thr Ala His Arg Leu Phe Gly Asp Ile Ala Phe Tyr Tyr Cys Ser
    2035              2040                      2045
Asp Gly Tyr Ser Leu Ala Asp Asn Ser Gln Leu Leu Cys Asn Ala Gln
    2050              2055        2060                     2080
Gly Lys Trp Val Pro Pro Glu Gly Gln Asp Met Pro Arg Cys Ile Ala
2065              2070                2075                2095
His Phe Cys Glu Lys Pro Pro Ser Val Ser Tyr Ser Ile Leu Glu Ser
2085              2090                            2110
Val Ser Lys Ala Lys Phe Ala Ala Gly Ser Val Val Ser Phe Lys Cys
2100                   2105                          2125
Met Glu Gly Phe Val Leu Asn Thr Ser Ala Lys Ile Glu Gln Cys Met Arg
2115              2120                          2140
Gly Gly Gln Trp Asn Pro Ser Ile Met Asn Gly Tyr Ala Ser Gly Ser
2130              2135                2155                2160
Arg Cys Gly Glu Pro Pro Ser Ile Met Asn ...
2145
Asn Tyr Ser Phe Gly Ala Met Val Ala Tyr Ser Glu Ala Thr Gly Gln Trp
             2165                     2170                2190
Tyr Ile Lys Gly Glu Lys Ser Thr Cys Glu Ala Thr Gly Gln Trp
2180                   2185
Ser Ser Pro Ile Pro Thr Cys His Pro Val Ser Cys Gly Glu Pro Pro
             2195                     2200                2205
Lys Val Glu Asn Gly Phe Gln Cys Asn Pro Gly Tyr Lys Ser Val Gly Ser
2210                   2215                2220                2240
Ser Glu Val Arg Tyr Gln Cys Gln Ala Asn Arg His Trp His Ser Glu Ser Pro
2225                   2230                2235                2255
Pro Val Phe Val Cys Val Pro ... Ile Phe Glu
Leu Met Cys Val Pro Leu Asp Cys Gly Lys Pro Pro Pro Ile Gln Asn
2245                   2250                2265                2270
Gly Phe Met Lys Gly Glu Asn Phe Glu Val Gly Asp Ser Ser Trp Thr Cys
2260                   2275                2280                2285
Phe Cys Asn Glu Gly Tyr Glu Leu Val Gly Ser Lys Lys Val Gln Phe
2290                   2295                2300                2320
Gln Lys Ser Gly Lys Trp Asn Lys Lys Ser Asn Pro Lys Cys Met Pro
2305                   2310                2315                2335
Ala Lys Cys Pro Glu Pro Pro Leu Leu Glu Asn Gln Leu Val Leu Lys
2325                   2330                2345                2350
Glu Leu Thr Thr Glu Val Gly Val Val Thr Phe Ser Cys Lys Glu Gly
2340                   2355                2360                2365
His Val Leu Gln Gly Pro Ser Val Cys Lys Ile Val Leu Cys Thr Pro Pro
2370                   2375                2380
Trp Asn Asp Ser Phe Pro Val Cys Lys Cys Leu Pro Ser Ala Leu His Phe
2385                   2390                2395                2400
Pro Leu Ile Ser Phe Gly Val Pro Ile Pro Ser Ser Ala Leu His Phe
Gly Ser Thr Val Lys Tyr Ser Cys Val Gly Gly Phe Phe Leu Arg Gly
2405                   2410                          2415
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Asn Ser Thr Thr Leu Cys Gln Pro Asp Gly Thr Trp Ser Ser Pro Leu
          2420              2425              2430
Pro Glu Cys Val Pro Val Glu Cys Pro Gln Pro Glu Glu Ile Pro Asn
          2435              2440              2445
Gly Ile Ile Asp Val Gln Gly Leu Ala Tyr Leu Ser Thr Ala Leu Tyr
          2450              2455              2460
Thr Cys Lys Pro Gly Phe Glu Leu Val Gly Asn Thr Thr Thr Leu Cys
2465              2470              2475              2480
Gly Glu Asn Gly His Trp Leu Gly Gly Lys Pro Thr Cys Lys Ala Ile
          2485              2490              2495
Glu Cys Leu Lys Pro Lys Glu Ile Leu Asn Gly Lys Phe Ser Tyr Thr
          2500              2505              2510
Asp Leu His Tyr Gly Gln Thr Val Thr Tyr Ser Cys Asn Arg Gly Phe
          2515              2520              2525
Arg Leu Glu Gly Pro Ser Ala Leu Thr Cys Leu Glu Thr Gly Asp Trp
          2530              2535              2540
Asp Val Asp Ala Pro Ser Cys Asn Ala Ile His Cys Asp Ser Pro Gln
2545              2550              2555              2560
Pro Ile Glu Asn Gly Phe Val Glu Gly Ala Asp Tyr Ser Tyr Gly Ala
          2565              2570              2575
Ile Ile Ile Tyr Ser Cys Phe Pro Gly Phe Gln Val Ala Gly His Ala
          2580              2585              2590
Met Gln Thr Cys Glu Glu Ser Gly Trp Ser Ser Ser Ile Pro Thr Cys
          2595              2600              2605
Met Pro Ile Asp Cys Gly Leu Pro Pro His Ile Asp Phe Gly Asp Cys
          2610              2615              2620
Thr Lys Leu Lys Asp Asp Gln Gly Tyr Phe Glu Gln Glu Asp Asp Met
2625              2630              2635              2640
Met Glu Val Pro Tyr Val Thr Pro His Pro Pro Tyr His Leu Gly Ala
          2645              2650              2655
Val Ala Lys Thr Trp Glu Asn Thr Lys Glu Ser Pro Ala Thr His Ser
          2660              2665              2670
Ser Asn Phe Leu Tyr Gly Thr Met Val Ser Tyr Thr Cys Asn Pro Gly
          2675              2680              2685
Tyr Glu Leu Leu Gly Asn Pro Val Leu Ile Cys Gln Glu Asp Gly Thr
          2690              2695              2700
Trp Asn Gly Ser Ala Pro Ser Cys Ile Ser Ile Glu Cys Asp Leu Pro
2705              2710              2715              2720
Thr Ala Pro Glu Asn Gly Phe Leu Arg Phe Thr Glu Thr Ser Met Gly
          2725              2730              2735
Ser Ala Val Gln Tyr Ser Cys Lys Pro Gly His Ile Leu Ala Gly Ser
          2740              2745              2750
Asp Leu Arg Leu Cys Leu Glu Asn Arg Lys Trp Ser Gly Ala Ser Pro
          2755              2760              2765
Arg Cys Glu Ala Ile Ser Cys Lys Lys Pro Asn Pro Val Met Asn Gly
          2770              2775              2780
Ser Ile Lys Gly Ser Asn Tyr Thr Tyr Leu Ser Thr Leu Tyr Tyr Glu
2785              2790              2795              2800
Cys Asp Pro Gly Tyr Val Leu Asn Gly Thr Glu Arg Arg Thr Cys Gln
          2805              2810              2815
Asp Asp Lys Asn Trp Asp Glu Asp Glu Pro Ile Cys Ile Pro Val Asp
          2820              2825              2830
Cys Ser Ser Pro Pro Val Ser Ala Asn Gly Gln Val Arg Gly Asp Glu
          2835              2840              2845
Tyr Thr Phe Gln Lys Glu Ile Glu Tyr Thr Cys Asn Glu Gly Phe Leu
          2850              2855              2860
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Leu Glu Gly Ala Arg Ser Arg Val Cys Leu Ala Asn Gly Ser Trp Ser
2865                2870                2875                2880
Gly Ala Thr Pro Asp Cys Val Pro Val Arg Cys Ala Thr Pro Pro Gln
               2885                2890                2895
Leu Ala Asn Gly Val Thr Glu Gly Leu Asp Tyr Gly Phe Met Lys Glu
               2900                2905                2910
Val Thr Phe His Cys His Glu Gly Tyr Ile Leu His Gly Ala Pro Lys
               2915                2920                2925
Leu Thr Cys Gln Ser Asp Gly Asn Trp Asp Ala Glu Ile Pro Leu Cys
               2930                2935                2940
Lys Pro Val Asn Cys Gly Pro Pro Glu Asp Leu Ala His Gly Phe Pro
2945                2950                2955                2960
Asn Gly Phe Ser Phe Ile His Gly Gly His Ile Gln Tyr Gln Cys Phe
               2965                2970                2975
Pro Gly Tyr Lys Leu His Gly Asn Ser Ser Arg Arg Cys Leu Ser Asn
               2980                2985                2990
Gly Ser Trp Ser Gly Ser Ser Pro Ser Cys Leu Pro Cys Arg Cys Ser
               2995                3000                3005
Thr Pro Val Ile Glu Tyr Gly Thr Val Asn Gly Thr Asp Phe Asp Cys
               3010                3015                3020
Gly Lys Ala Ala Arg Ile Gln Cys Phe Lys Gly Phe Lys Leu Leu Gly
3025                3030                3035                3040
Leu Ser Glu Ile Thr Cys Glu Ala Asp Gly Gln Trp Ser Ser Gly Phe
               3045                3050                3055
Pro His Cys Glu His Thr Ser Cys Gly Ser Leu Pro Met Ile Pro Asn
               3060                3065                3070
Ala Phe Ile Ser Glu Thr Ser Ser Trp Lys Glu Asn Val Ile Thr Tyr
               3075                3080                3085
Ser Cys Arg Ser Gly Tyr Val Ile Gln Gly Ser Ser Asp Leu Ile Cys
3090                3095                3100
Thr Glu Lys Gly Val Trp Ser Gln Pro Tyr Pro Val Cys Glu Pro Leu
3105                3110                3115                3120
Ser Cys Gly Ser Pro Pro Ser Val Ala Asn Ala Val Ala Thr Gly Glu
               3125                3130                3135
Ala His Thr Tyr Glu Ser Glu Val Lys Leu Arg Cys Leu Glu Gly Tyr
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Thr Met Asp Thr Asp Thr Asp Thr Phe Thr Cys Gln Lys Asp Gly Arg
               3155                3160                3165
Trp Phe Pro Glu Arg Ile Ser Cys Ser Pro Lys Lys Cys Pro Leu Pro
               3170                3175                3180
Glu Asn Ile Thr His Ile Leu Val His Gly Asp Asp Phe Ser Val Asn
3185                3190                3195                3200
Arg Gln Val Ser Val Ser Cys Ala Glu Gly Tyr Thr Phe Glu Gly Val
               3205                3210                3215
Asn Ile Ser Val Cys Gln Leu Asp Gly Thr Trp Glu Pro Pro Phe Ser
               3220                3225                3230
Asp Glu Ser Cys Ser Pro Val Ser Cys Gly Lys Pro Glu Ser Pro Glu
               3235                3240                3245
His Gly Phe Val Val Gly Ser Lys Tyr Thr Phe Glu Ser Thr Ile Ile
               3250                3255                3260
Tyr Gln Cys Glu Pro Gly Tyr Glu Leu Glu Gly Asn Arg Glu Arg Val
3265                3270                3275                3280
Cys Gln Glu Asn Arg Gln Trp Ser Gly Gly Val Ala Ile Cys Lys Glu
               3285                3290                3295
Thr Arg Cys Glu Thr Pro Leu Glu Phe Leu Asn Gly Lys Ala Asp Ile
               3300                3305                3310
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Glu Asn Arg Thr Thr Gly Pro Asn Val Val Tyr Ser Cys Asn Arg Gly
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Tyr Ser Leu Glu Gly Pro Ser Glu Ala His Cys Thr Glu Asn Gly Thr
        3330               3335               3340
Trp Ser His Pro Val Pro Leu Cys Lys Pro Asn Pro Cys Pro Val Pro
3345               3350               3355               3360
Phe Val Ile Pro Glu Asn Ala Leu Leu Ser Glu Lys Glu Phe Tyr Val
                3365               3370               3375
Asp Gln Asn Val Ser Ile Lys Cys Arg Glu Gly Phe Leu Leu Gln Gly
        3380               3385               3390
His Gly Ile Ile Thr Cys Asn Pro Asp Glu Thr Trp Thr Gln Thr Ser
        3395               3400               3405
Ala Lys Cys Glu Lys Ile Ser Cys Gly Pro Pro Ala His Val Glu Asn
    3410               3415               3420
Ala Ile Ala Arg Gly Val His Tyr Gln Tyr Gly Asp Met Ile Thr Tyr
3425               3430               3435               3440
Ser Cys Tyr Ser Gly Tyr Met Leu Glu Gly Phe Leu Arg Ser Val Cys
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Leu Glu Asn Gly Thr Trp Thr Ser Pro Pro Ile Cys Arg Ala Val Cys
                3460               3465               3470
Arg Phe Pro Cys Gln Asn Gly Gly Ile Cys Gln Arg Pro Asn Ala Cys
        3475               3480               3485
Ser Cys Pro Glu Gly Trp Met Gly Arg Leu Cys Glu Glu Pro Ile Cys
    3490               3495               3500
Ile Leu Pro Cys Leu Asn Gly Gly Arg Cys Val Ala Pro Tyr Gln Cys
3505               3510               3515               3520
Asp Cys Pro Pro Gly Trp Thr Gly Ser Arg Cys His Thr Ala Val Cys
                3525               3530               3535
Gln Ser Pro Cys Leu Asn Gly Gly Lys Cys Val Arg Pro Asn Arg Cys
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<212> DNA
<213> homo sapiens

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16

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17

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<210> 6
<211> 1842
<212> PRT
<213> homo sapiens

<400> 6

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            20                  25                  30
Arg Leu Phe Pro Glu Thr Ala Pro Gly Ala Pro Gly Ser Ile Pro Ala
            35                  40                  45
Pro Pro Ala Pro Gly Asp Glu Ala Ala Gly Ser Arg Val Glu Arg Leu
        50                  55                  60
Gly Gln Ala Phe Arg Arg Arg Val Arg Leu Leu Arg Glu Leu Ser Glu
65                  70                  75                  80
Arg Leu Glu Leu Val Phe Leu Val Asp Asp Ser Ser Ser Val Gly Glu
                85                  90                  95
Val Asn Phe Arg Ser Glu Leu Met Phe Val Arg Lys Leu Leu Ser Asp
            100                 105                 110
Phe Pro Val Val Pro Thr Ala Thr Arg Val Ala Ile Val Thr Phe Ser
            115                 120                 125
Ser Lys Asn Tyr Val Val Pro Arg Val Asp Tyr Ile Ser Thr Arg Arg
        130                 135                 140
Ala Arg Gln His Lys Cys Ala Leu Leu Leu Gln Glu Ile Pro Ala Ile
145                 150                 155                 160
Ser Tyr Arg Gly Gly Gly Thr Tyr Thr Lys Gly Ala Phe Gln Gln Ala
                165                 170                 175
Ala Gln Ile Leu Leu His Ala Arg Glu Asn Ser Thr Lys Val Val Phe
            180                 185                 190
```

18

```
Leu Ile Thr Asp Gly Tyr Ser Asn Gly Gly Asp Pro Arg Pro Ile Ala
        195             200             205
Ala Ser Leu Arg Asp Ser Gly Val Glu Ile Phe Thr Phe Gly Ile Trp
    210             215             220
Gln Gly Asn Ile Arg Glu Leu Asn Asp Met Ala Ser Thr Pro Lys Glu
225             230             235             240
Glu His Cys Tyr Leu Leu His Ser Phe Glu Glu Phe Glu Ala Leu Ala
            245             250             255
Arg Arg Ala Leu His Glu Asp Leu Pro Ser Gly Ser Phe Ile Gln Asp
        260             265             270
Asp Met Val His Cys Ser Tyr Leu Cys Asp Glu Gly Lys Asp Cys Cys
        275             280             285
Asp Arg Met Gly Ser Cys Lys Cys Gly Thr His Thr Gly His Phe Glu
    290             295             300
Cys Ile Cys Glu Lys Gly Tyr Tyr Gly Lys Gly Leu Gln Tyr Glu Cys
305             310             315             320
Thr Ala Cys Pro Ser Gly Thr Tyr Lys Pro Glu Gly Ser Pro Gly Gly
            325             330             335
Ile Ser Ser Cys Ile Pro Cys Pro Asp Glu Asn His Thr Ser Pro Pro
            340             345             350
Gly Ser Thr Ser Pro Glu Asp Cys Val Cys Arg Glu Gly Tyr Arg Ala
        355             360             365
Ser Gly Gln Thr Cys Glu Leu Val His Cys Pro Ala Leu Lys Pro Pro
    370             375             380
Glu Asn Gly Tyr Phe Ile Gln Asn Thr Cys Asn Asn His Phe Asn Ala
385             390             395             400
Ala Cys Gly Val Arg Cys His Pro Gly Phe Asp Leu Val Gly Ser Ser
            405             410             415
Ile Ile Leu Cys Leu Pro Asn Gly Leu Trp Ser Gly Ser Glu Ser Tyr
            420             425             430
Cys Arg Val Arg Thr Cys Pro His Leu Arg Gln Pro Lys His Gly His
        435             440             445
Ile Ser Cys Ser Thr Arg Glu Met Leu Tyr Lys Thr Thr Cys Leu Val
    450             455             460
Ala Cys Asp Glu Gly Tyr Arg Leu Glu Gly Ser Asp Lys Leu Thr Cys
465             470             475             480
Gln Gly Asn Ser Gln Trp Asp Gly Pro Glu Pro Arg Cys Val Glu Arg
            485             490             495
His Cys Ser Thr Phe Gln Met Pro Lys Asp Val Ile Ile Ser Pro His
            500             505             510
Asn Cys Gly Lys Gln Pro Ala Lys Phe Gly Thr Ile Cys Tyr Val Ser
    515             520             525
Cys Arg Gln Gly Phe Ile Leu Ser Gly Val Lys Glu Met Leu Arg Cys
    530             535             540
Thr Thr Ser Gly Lys Trp Asn Val Gly Val Gln Ala Ala Val Cys Lys
545             550             555             560
Asp Val Glu Ala Pro Gln Ile Asn Cys Pro Lys Asp Ile Glu Ala Lys
            565             570             575
Thr Leu Glu Gln Gln Asp Ser Ala Asn Val Thr Trp Gln Ile Pro Thr
        580             585             590
Ala Lys Asp Asn Ser Gly Glu Lys Val Ser Val His Val His Pro Ala
    595             600             605
Phe Thr Pro Pro Tyr Leu Phe Pro Ile Gly Asp Val Ala Ile Val Tyr
610             615             620
Thr Ala Thr Asp Leu Ser Gly Asn Gln Ala Ser Cys Ile Phe His Ile
625             630             635             640
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19

```
Lys Val Ile Asp Ala Glu Pro Pro Val Ile Asp Trp Cys Arg Ser Pro
            645                 650                 655
Pro Pro Val Gln Val Ser Glu Lys Val His Ala Ala Ser Trp Asp Glu
            660                 665                 670
Pro Gln Phe Ser Asp Asn Ser Gly Ala Glu Leu Val Ile Thr Arg Ser
            675                 680                 685
His Thr Gln Gly Asp Leu Phe Pro Gln Gly Glu Thr Ile Val Gln Tyr
690                     695                 700
Thr Ala Thr Asp Pro Ser Gly Asn Asn Arg Thr Cys Asp Ile His Ile
705                 710                 715                 720
Val Ile Lys Gly Ser Pro Cys Glu Ile Pro Phe Thr Pro Val Asn Gly
            725                 730                 735
Asp Phe Ile Cys Thr Pro Asp Asn Thr Gly Val Asn Cys Thr Leu Thr
            740                 745                 750
Cys Leu Glu Gly Tyr Asp Phe Thr Glu Gly Ser Thr Asp Lys Tyr Tyr
            755                 760                 765
Cys Ala Tyr Glu Asp Gly Val Trp Lys Pro Thr Tyr Thr Thr Glu Trp
            770                 775                 780
Pro Asp Cys Ala Lys Lys Arg Phe Ala Asn His Gly Phe Lys Ser Phe
785                 790                 795                 800
Glu Met Phe Tyr Lys Ala Ala Arg Cys Asp Asp Thr Asp Leu Met Lys
            805                 810                 815
Lys Phe Ser Glu Ala Phe Glu Thr Thr Leu Gly Lys Met Val Pro Ser
            820                 825                 830
Phe Cys Ser Asp Ala Glu Asp Ile Asp Cys Arg Leu Glu Glu Asn Leu
            835                 840                 845
Thr Lys Lys Tyr Cys Leu Glu Tyr Asn Tyr Asp Tyr Glu Asn Gly Phe
            850                 855                 860
Ala Ile Gly Pro Gly Gly Trp Gly Ala Ala Asn Arg Leu Asp Tyr Ser
865                 870                 875                 880
Tyr Asp Asp Phe Leu Asp Thr Val Gln Glu Thr Ala Thr Ser Ile Gly
            885                 890                 895
Asn Ala Lys Ser Ser Arg Ile Lys Arg Ser Ala Pro Leu Ser Asp Tyr
            900                 905                 910
Lys Ile Lys Leu Ile Phe Asn Ile Thr Ala Ser Val Pro Leu Pro Asp
            915                 920                 925
Glu Arg Asn Asp Thr Leu Glu Trp Glu Asn Gln Gln Arg Leu Leu Gln
            930                 935                 940
Thr Leu Glu Thr Ile Thr Asn Lys Leu Lys Arg Thr Leu Asn Lys Asp
945                 950                 955                 960
Pro Met Tyr Ser Phe Gln Leu Ala Ser Glu Ile Leu Ile Ala Asp Ser
            965                 970                 975
Asn Ser Leu Glu Thr Lys Lys Ala Ser Pro Phe Cys Arg Pro Gly Ser
            980                 985                 990
Val Leu Arg Gly Arg Met Cys Val Asn Cys Pro Leu Gly Thr Tyr Tyr
            995                 1000                1005
Asn Leu Glu His Phe Thr Cys Glu Ser Cys Arg Ile Gly Ser Tyr Gln
            1010                1015                1020
Asp Glu Glu Gly Gln Leu Glu Cys Lys Leu Cys Pro Ser Gly Met Tyr
1025                1030                1035                1040
Thr Glu Tyr Ile His Ser Arg Asn Ile Ser Asp Cys Lys Ala Gln Cys
                    1045                1050                1055
Lys Gln Gly Thr Tyr Ser Tyr Ser Gly Leu Glu Thr Cys Glu Ser Cys
                    1060                1065                1070
Pro Leu Gly Thr Tyr Gln Pro Lys Phe Gly Ser Arg Ser Cys Leu Ser
            1075                1080                1085
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20

Cys Pro Glu Asn Thr Ser Thr Val Lys Arg Gly Ala Val Asn Ile Ser
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Ala Cys Gly Val Pro Cys Pro Glu Gly Lys Phe Ser Arg Ser Gly Leu
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Met Pro Cys His Pro Cys Pro Arg Asp Tyr Tyr Gln Pro Asn Ala Gly
                1125   1130   1135
Lys Ala Phe Cys Leu Ala Cys Pro Phe Tyr Gly Thr Thr Pro Phe Ala
           1140   1145   1150
Gly Ser Arg Ser Ile Thr Glu Cys Ser Ser Phe Ser Ser Thr Phe Ser
           1155   1160   1165
Ala Ala Glu Glu Ser Val Val Pro Pro Ala Ser Leu Gly His Ile Lys
      1170   1175   1180
Lys Arg His Glu Ile Ser Ser Gln Val Phe His Glu Cys Phe Phe Asn
1185   1190   1195   1200
Pro Cys His Asn Ser Gly Thr Cys Gln Gln Leu Gly Arg Gly Tyr Val
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Cys Leu Cys Pro Leu Gly Tyr Thr Gly Leu Lys Cys Glu Thr Asp Ile
           1220   1225   1230
Asp Glu Cys Ser Pro Leu Pro Cys Leu Asn Asn Gly Val Cys Lys Asp
      1235   1240   1245
Leu Val Gly Glu Phe Ile Cys Glu Cys Pro Ser Gly Tyr Thr Gly Gln
      1250   1255   1260
Arg Cys Glu Glu Asn Ile Asn Glu Cys Ser Ser Ser Pro Cys Leu Asn
1265   1270   1275   1280
Lys Gly Ile Cys Val Asp Gly Val Ala Gly Tyr Arg Cys Thr Cys Val
                1285   1290   1295
Lys Gly Phe Val Gly Leu His Cys Glu Thr Glu Val Asn Glu Cys Gln
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Ser Asn Pro Cys Leu Asn Asn Ala Val Cys Glu Asp Gln Val Gly Gly
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Phe Leu Cys Lys Cys Pro Pro Gly Phe Leu Gly Thr Arg Cys Gly Lys
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Asn Val Asp Glu Cys Leu Ser Gln Pro Cys Lys Asn Gly Ala Thr Cys
1345   1350   1355   1360
Lys Asp Gly Ala Asn Ser Phe Arg Cys Leu Cys Ala Ala Gly Phe Thr
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Gly Ser His Cys Glu Leu Asn Ile Asn Glu Cys Gln Ser Asn Pro Cys
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Arg Asn Gln Ala Thr Cys Val Asp Glu Leu Asn Ser Tyr Ser Cys Lys
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Cys Gln Pro Gly Phe Ser Gly Gln Arg Cys Glu Thr Glu Gln Ser Thr
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Gly Phe Asn Leu Asp Phe Glu Val Ser Gly Ile Tyr Gly Tyr Val Met
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Leu Asp Gly Met Leu Pro Ser Leu His Ala Leu Thr Cys Thr Phe Trp
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